5174

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. PATTON, *Director*

State: S. E. ALASKA

DESCRIPTIVE REPORT

[redacted] / *Hydrographic* } *Sheet No.* 2. 5174

LOCALITY

BURROUGHS BAY AND VICINITY

BEHM CANAL

S. E. ALASKA

1931

CHIEF OF PARTY

E. W. EICKELBERG

U. S. GOVERNMENT PRINTING OFFICE: 1930

5174

Form 537

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

REG. NO. 5174

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 2

REGISTER NO. 5174

State ~~S. E.~~ ALASKA

General locality ~~BURROUGHS BAY~~ - BEHM CANAL

Locality ~~ALASKA~~ Burroughs Bay and Vicinity

Scale 1:20,00 Date of survey APRIL - MAY, 19 31

& insert: 1:10,000

Vessel U.S.C. & G.S.S. EXPLORER

Chief of Party E. W. EICKELBERG

Surveyed by W. Weidlich

Protracted by W. Weidlich

Soundings penciled by W. Weidlich

Soundings in fathoms ~~feet~~ & fractions thereof.

Plane of reference M. L. L. W.

Subdivision of wire dragged areas by

Inked by E C McGlasson

Verified by E C McGlasson

Instructions dated March 7th, 1930

Remarks:

U. S. GOVERNMENT PRINTING OFFICE

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 2

BURROUGHS BAY - BEHM CANAL

S. E. ALASKA

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E. W. EICKELBERG - CHIEF OF PARTY

SEASON OF 1931

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 2

BURROUGHS BAY - BEHM CANAL

S. E. ALASKA

AUTHORITY:

The hydrography on this sheet was executed under instructions of the Director of the U. S. Coast and Geodetic Survey, dated March 7th, 1930.

SCALE:

1:20,000, and insert of Fitzgibbon Cove, 1:10,000. Soundings are in fathoms.

LIMITS:

The whole navigable area north of Fire Point to the East Point of a peninsula* on which Claude Point is located, was covered by this survey, and connects with the work done in 1930 and hydrographic sheet No. 3. H-5150

*Keyakan P.

METHODS:

The approved methods of the service were used throughout.

All launch-work was performed with good fixes, and lines run generally on ranges. This explains the lack of compass-headings in the sounding-volumes.

The launch "Delta" was used for all the work, and letter days are shown in red.

A ten-pound hand-lead was used in depths of less than 15 fathoms, and in greater depths a steam sounding-machine, with an eighteen-pound lead and stranded wire, was used.

The lines are spaced from 400 to 200 meters apart, with splits near the shores and in areas where much closer development was required, on account of the nature of the bottom.

The sounding-lines run parallel with the meridians.

CONTROL:

Triangulation and topography furnish the necessary control.

TIDES:

An automatic portable tide-gauge was in operation in Fitzgibbon Cove, and all tide-reducers were taken from its records, covering the period during which the soundings were taken.

KELP:

The area covered by this survey is apparently free of kelp.

CURRENTS:

No current observations were taken in this locality, and nothing definite can be said about it, except that the currents are very erratic in places, and greatly influenced by winds, and in Burroughs Bay by the Unuk and Klahini Rivers.

A strong south-westerly set was observed at the north shores of Burroughs Bay and a strong south-easterly set in the vicinity of Point Whaley with heavy tide-rips during strong south-easterly winds.

BOTTOM:

The bottom is very irregular, especially at the mouth of the Unuk River, and the large stream* which empties about 2-1/2 miles north-north-east of Point Fitzgibbon.

* Nichi Cr.

The bottom characteristic in general is muddy. Near the shores it is rocky with occasional sand, and muddy and sandy near the flats of the Unuk and Klahini Rivers and the larger streams.

The shore-line is mostly rocky and abrupt in many places, with exceptions at the mouths of the rivers.

DANGERS AND OBSTRUCTIONS:

1.

A rock about 10 by 30 meters in size, with a least depth of 7 feet at M.L.L.W. lies about 110 meters, 294° from signal ELB. Positions 112 and 113 "u".

2.

A shoal with a least depth found of 33 fathoms at M.L.L.W., lies about 1840 meters, 284° from signal HOSE. This area is well developed. Muddy bottom. Positions 46, 58 and 59 "t".

3.

A shoal with a least depth found of 7-3/4 fathoms at M.L.L.W., lies about 1190 meters, 138° from signal DICK. The bottom is sticky and sandy. (Position 16 "p"). A 9 fathoms spot lies about 150 meters north-north-west of this position. This 9 fathoms spot is not developed. The bottom is very irregular. See Position 21 "p". 11-1/2 fathoms aft and 16 fathoms forward.

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A rock, almost in mid-channel in Fitzgibbons Cove, was located. The depths of old charts were greatly reduced.

The flats of the Unuk River extend much farther, as shown by previous surveys.

ANCHORAGES:

Fitzgibbon Cove offers the best anchorage for small vessels in the northern part of the cove, in 13 fathoms, muddy bottom. However, to enter this part of the cove it is necessary to favor the westerly shore after passing east of Center Islets and when abeam of Gibb Rock. This anchorage was used to a great extent by the Ship EXPLORER, while working in this vicinity. It is well sheltered, especially from south-east winds.

APRIL 15th, 1931 - FITZGIBBON COVE see page 3

An indifferent anchorage, but used by the ship while working at the head of Burroughs Bay, is about 250 meters, 55° from triangulation station HALLOW, near position 112 "1". Bottom is muddy.

WEATHER:

The weather was not any too favorable while the work was in progress. South-east winds were prevailing with heavy continuous rain. Heavy snow on April 14, 15, 16 and 17th.

Respectfully submitted,

W Weidlich

W. Weidlich.

Approved and forwarded,

G C Jones

G. C. Jones,
Commanding Officer,
U.S.C. & G.S.S. EXPLORER.

LIST OF STATISTICS

HYDROGRAPHIC SHEET NO. 2

Date	Vol.	Day	Boat	Stat. Miles	Pos.	SOUNDINGS Hand	Mach.	Naut.Miles To & From Wk.	Remarks
April 27	1	a	DELTA	3.9	38	9	47	6.8	Mr. Weidlich
" 28	1	b	"	12.3	100	16	113	8.6	
" 29	1	c	"	20.3	133	27	158	9.5	
" 30	1	d	"	8.7	91	48	125	10.1	
May 4	1	e	"	8.4	53	3	66	4.8	
" 5	1	f	"						
" 6	1&2	g	"	16.0	113	36	125	5.0	
" 7	2	h	"	11.7	129	34	168	12.0	
" 8	2	j	"	16.2	110	10	139	11.5	
" 11	2	k	"	14.4	118	19	132	1.7	
" 12	2	l	"	8.0	112	99	110	5.0	
" 13	3	m	"	23.9	137	36	238	3.3	
" 14	3	n	"	19.3	167	312	226	1.3	
" 15	3&4	p	"	14.9	127	172	168	11.0	
" 19	4	q	"	15.4	116	16	159	7.5	
" 20	4	r	"	14.0	127	22	166	10.0	
" 21	4	s	"	15.9	176	100	190	4.5	
" 22	5	t	"	12.5	151	51	165	6.5	
" 25	5	u	"	16.3	181	477	108	0.5	
" 26	5&6	v	"	15.8	178	140	176	0.5	
Total:				267.9	2357	1627	2779	120.1	

rae

June 11, 1932.

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 5174

Locality **Burroughs Bay and Fitzgibbon Cove, Behm Canal, S. E. Alaska**

Chief of Party: **E. W. Eichelberg in 1931**
Plane of reference is **mean lower low water, reading**
4.1 ft. on tide staff at **Fitzgibbon Cove**
17.4 ft. below B. M. **1**

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

Paul T. O'Whitney

Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5174

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	2387
Number of positions checked	630
Number of positions revised	23
Number of soundings recorded	4404
Number of soundings revised	92
Number of signals erroneously plotted or transferred	None

Date: 30 July 1932

Cartographer: E. M. Glosson

Section of Field Records

Sheet No H 5174
Surveyed in 1931
Chief of Party – E.W. Eickelberg
Surveyed by – W. Weidlich
Protracted by – W. Weidlich
Soundings plotted by – W. Weidlich.
Verified and Inked by – S. C. McGlasson

1. The records conform to the requirements of the general instructions.
2. The plan and character of development fulfil the requirements of general instructions.
3. The sounding line crossings are adequate.
4. The usual depth curves can be completely drawn within the limits of the sheet.
5. The office draftsman did not have to do over any part of drafting done by field party except as noted on statistic Sheet.
6. The field plotting was completed to the extent prescribed in general

instructions.

7. The junction with adjacent sheets are satisfactory.

8. Discrepancies:

(a) There is a small river between △ Hallow and ⊙ Sea which is shown on smooth sheet but does not exist on Boot sheet nor Topographic sheet. Erased

(b) A small river between ⊙ Lit and ⊙ Dro is shown on smooth and boat sheet but is not shown on Topographic sheet.

(c) A small river is shown between ⊙ Bio and ⊙ No on the smooth sheet but is not shown on the Boot sheet nor Topographic sheet. Expunged

(d) In long 131° 12' + 380 m then
In lat 55° 58' + 1390 m
is a bare rock shown on smooth sheet but is not on boat sheet nor topographic sheet and I cannot find it in the sounding records. Expunged

(e) In long 131° 11' + 960 m
In lat 55° 58' + 1020 m and
In long 131° 11' + 810 m
lat 55° 58' + 490 m bare rocks
are shown on smooth sheet but are not shown on Expunged

the boat sheet non-topographic sheet.

Respectfully submitted,

L. C. McGlamery

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

AND REFER TO No. 80-DRM

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

SECTION OF FIELD RECORDS

Review of Hydrographic Sheet No. 5174

Burroughs Bay and vicinity, Behm Canal, Alaska

Surveyed in April-May, 1931

Instructions dated March 7, 1930 (EXPLORER)

Chief of Party, E. W. Eickelberg

Surveyed by W. Weidlich

Protracted and soundings plotted by W. W.

Verified and inked by G. C. McGlosson.

1. The records conform to the requirements of the Hydrographic Manual.

2. The plan and extent of development satisfy the specific instructions. The original instructions authorized sounding lines parallel with the shoreline; the lines were all run parallel with the meridians.

3. Soundings: No check cross lines were run. The depths appear consistent with the exception of three soundings (270, 255 and 251; approx. lat. 55°57', long.131°13') which appear to be too deep with reference to the surrounding depths and character of bottom. Depths over 100 fathoms have not been reduced for tide.

   Three rock awash symbols were expunged from the sheet. They were close inshore, were not supported by either boatsheet or topographic sheet, and no mention of them was made in the sounding record.

4. The usual depth curves are shown on the sheet.

5. Junctions with contemporary survey sheet H. 5103 on the west and with H. 5150 on the southeast are satisfactory.

   A survey made in 1891 (H. 2108 and T. 2062) covers this same area. The present survey (H. 5174) shows greater depths (4 to 10 fathoms) in the deeper parts of Behm Canal. Burroughs Bay

and Fitzgibbon Cove are in better agreement with the former survey except that the flats at the head of the Bays are shown to have advanced a considerable distance from deposited sediment. The advance shown may be partly due to the greater detail of the present survey.

The shoal near the head of Burroughs Bay and the 7-foot sunken rock northwest of Gibbs Rock in Fitzgibbon Cove were not shown on the older survey. The latter was made a chart correction under authority of a special report (Chart Division letter No. 458 of 1931).

6. Recommendation: This survey (H. 5174) should supersede all former surveys of this area for charting purposes. No further surveys are deemed necessary at the present time.

7. Reviewed by R. J. Christman, August 9, 1932.

Memorandum by A. L. Shalowitz

Referring to paragraph 5 of this review, a study of the old records fails to reveal any reasons for the differences noted between the two surveys. Both were taking stop wire soundings with well controlled fixes. However, it is uncertain what method was used on the old survey for determining the amount of wire out. If the revolutions of a drum were used as a basis then it is known from previous experience that these are not too reliable. If a registering sheave was used (it is doubtful whether this device had already come into use at this time) then it is unknown whether any sheave error existed. Whatever the cause of the discrepancy, there appears to be no reason for doubting the accuracy of the new work and inasmuch as no critical depths are involved it is recommended that this survey (H. 5174) supersede H. 2108 and T. 2062 in so far as they affect the new survey.

Sheet inspected by A. L. Shalowitz.

Approved:

A. M. Sobiralski
Chief, Section of Field Records

J. S. Borden
Chief, Section of Field Work